

Lesson 4



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V Is for Valley

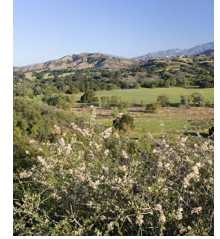
This lesson focuses on valleys as one ecosystem in California. Students learn about the characteristics of a valley and how these characteristics make it suitable for the human system of agriculture. They see that the shape of the land and access to water provide ideal conditions for humans to grow crops and raise animals.

The concept of connectors within and between ecosystems is also reinforced as students revisit the story of snow melting in the mountains to contribute to the rivers flowing to the valley. Students also become familiar with the diversity of plants and ani-

mals that thrive in a **valley** ecosystem and the parts within the system that help them survive.

English-Language Arts skills supported through this lesson include sharing information and ideas, following directions, and describ-

ing places and things. Ways in which students are actively involved include developing a definition of a valley, participating in creating a concept map, and studying a relief map of California.



Background

A valley is lowland surrounded by hills or mountains. Some valleys are narrow; others quite wide. Narrow valleys generally get less sunshine and are cooler than wide valleys. Valleys in California, east of the coastal mountains, get a lot of sunshine but are cooled by fog. This cooling allows grapes to be cultivated. Fruit and nut trees and cool weather vegetables are grown in the coastal valleys.

A wide variety of trees, shrubs, wildflowers, mammals, birds, reptiles, and amphibians can be found in the valleys of California. Valleys have many natural components that help plants and animals thrive. The flat terrain of the valley floor contrasts with the steep, rocky terrain of the mountains that often surround a valley. Centuries of weathering and erosion in the mountain have produced fertile alluvial fans on the floors of the valleys, where the soil is ideal for raising crops (fruits, vegetables, nuts, and grains) and growing the grasses necessary for grazing cattle. The fruits, nuts, and vegetables grown in valley farms are not native to the area, but the valley ecosystem's components (rich soil, water) produce bumper crops. California communities and the state's economy depend on these farms and their crops.

California's Great Central Valley stretches nearly 400 miles north to south. It is home to many of the world's most productive agricultural

Learning Objective

List different habitats (ecosystems) that are found in mountains, rivers, oceans, valleys, deserts, and in their local area.

Name some of the plants and animals that live in their local area.

Identify resources (goods and ecosystem services) that people use in everyday life (e.g., food, air, water, clothing).

efforts. The Central Valley is hot and dry during summer and cold and damp in winter. The Salinas Valley is sometimes called "America's Salad Bowl" because of the wide variety of vegetable crops grown there, including salad greens, tomatoes, and artichokes.

Rivers and river tributaries flow through most of California's valleys. Other valleys, such as Death Valley, are part of a desert where the water is far underground in an aquifer (addressed in Lesson 5). Water, which serves as a connector for all ecosystems, determines the health of the valley ecosystem, just as it determines the health of the rivers and mountains from which that water comes.



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Key Vocabulary

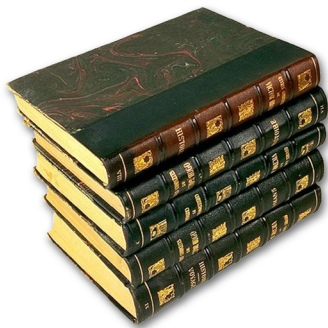
Valley: A long and mostly level lowland between ranges of mountains or hills.

Toolbox



Summary of Activities

Students define “valley” and identify why a valley is suitable for growing crops. They help develop a concept map and identify one way their daily life relates to valley resources. They gather information to determine if their school is in a valley.



Instructional Support

See Unit Resources, pages 20-21

Prerequisite Knowledge



- Students should be able to participate in a group discussion by relating comments to the discussion topic and listening to what others say.
- Students must be able to speak clearly enough to be understood by others.
- Students need to understand simple oral directions and be able to gather information from pictures.

Advanced Preparation

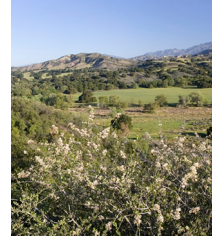


Collect examples:

Gather some fruits, nuts, and vegetables grown in the Central and Salinas Valleys or cut pictures of the products from supermarket ads.

Prepare Visual Aids:

Produce materials as indicated in the Visual Aids section.



Materials Needed



Dictionary:
One per class

Examples of valley products:
Collection of fruits, nuts, and vegetables grown in the Central and Salinas Valleys (or pictures cut from supermarket ads)

E Is for Earth books:
From Lesson 1

Class Supplies:
Chart paper, crayons or colored pencils, marker, pencils

Visual Aids



Big Book:
The World Around Me

Map:
Relief Map of California, page 93

Photo cards:
Mountain animals, page 99-103

Duration



Preparation time:
5-10 min.
Instructional time:
45-55 min.



Safety Notes

Check for food allergies before bringing food or nuts into the classroom.

Activity Masters



Valley Assessment Checklist
Page 89
One per class

Procedures

Step 1

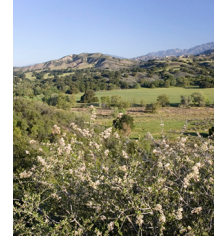
Show students the picture of the valley in *The World Around Me* (Lesson 1 Visual Aid). Have students describe the valley. (*It is mostly flat; it gets water from the mountains; different kinds of animals and plants grow there; other answers.*) Ask students to identify and describe some of the animals that live in the valley. (*Squirrels, birds, butterflies, other insects.*) Ask students to think about and share their ideas about what these animals eat and where they build their nests and go for protection. (*They eat nuts, nectar, grass, and so on; they build their nests in burrows and trees.*) Remind students that animals can survive in a valley only if all their basic needs can be met there.

Step 2

Using the **Relief Map of California** (Lesson 2 Visual Aid), have students identify the location of the two major mountain ranges: the Sierra Nevada and the Coast Ranges. Point out the land between the mountain ranges, where the San Joaquin and the Salinas Rivers flow. Tell students that area is called a valley. Write the sentence stem, “A valley is ...” on the board. Ask students for ideas on how to finish the sentence. Write their ideas on the board. Look up the definition of “valley” in a dictionary and compare the definitions suggested by the students to the one in the dictionary.

Step 3

Point out the location of California’s Great Central Valley and the Salinas Valley on the **Relief Map of California**. Tell students that some people call the Salinas Valley “America’s Salad Bowl.” Ask them why this name might fit this area. After the students have suggested that “it looks like a bowl,” tell students that valleys are places that have many things plants need to grow. Have students name what those things might be. (*Water, sun, soil.*) Explain that valleys like the Central Valley get a lot of sun most of the year; unlike the mountain ecosystem, the valley rarely has snow or ice, which would make it hard for plants to live. Water from the rivers that begin in the mountains makes its way into the valleys. Rocks and minerals follow the water or move down into the valleys from the mountains, making the soil very good for plants. Ask students, “Given all these parts of the valley ecosystem, why would people like living in the valleys?” (*They can grow food there; there are many plants and animals there; there is water, but not a lot of snow there.*)



Step 4

Tell students that many farms are located in California's Great Central Valley. Display and name some of the vegetables grown in the valley, or provide pictures depicting those vegetables cut from newspaper ads. Tell students that fruits and nuts are grown in the Central Valley. Name and display a few examples, such as pistachios, oranges, and apples. Have students name at least one thing they ate in the last day or two that might have come from California's Central Valley.

Step 5

Explain that not all valleys are used for growing crops. Show them the pictures of a valley in *The World Around Me - Part 2* where cattle are grazing and a valley in which a city is located. Have the students explain why valleys are generally good places for raising livestock such as cows, sheep, goats, and horses. (*There are many plants to eat; water is plentiful; the land is flat; the weather is warm, there is little snow.*) Using the **Relief Map of California**, have students identify their own community on the map and determine whether it is located in a valley.

Step 6

Using the students' ideas, develop a valley concept map depicting some of the parts and connections within a valley ecosystem. (*See the example in The World Around Me - Part 2.*) Use leading questions to stimulate a discussion about some of the natural resources people get from a valley for use in everyday life (food, water):

- Can you think of one thing you use everyday that might have come from a valley? (*Air, water, food.*)
- Think of three salad foods you could get from a valley. (*Lettuce, tomatoes, artichokes, other answers.*)
- What is your favorite fruit that is grown in a valley? (*Answers will vary.*)

Step 7

Return students' individual *E Is for Earth* (Lesson 1 Activity Master) books. Have them turn to the valley page and add (by drawing) some parts of a valley ecosystem (for example, plants, animals, water, soil). Give them time to explain their drawings, encouraging them to speak in complete coherent sentences. Collect the books when students have completed their work.

Lesson Assessment

Instructions

Description:

Student assessment for this lesson is embedded throughout the procedures. Embedded assessment activities consist primarily of inquiry questions related to the EEI Learning Objectives. All students should participate in the discussion, and their individual responses should be evaluated for accuracy. Students should be asked to explain some of their ideas to check for any misconceptions.

Instructions:

Have students discuss their understanding of the following with the teacher or another adult prepared to assess students' responses and provide feedback:

1. Describe the characteristics of a valley.
2. Identify some of the animals that live in a valley.
3. Identify at least one resource found in a valley that an animal could use to meet its basic needs.
4. Identify resources from a valley that humans use for farming and in other ways.

Suggested Scoring

Use the Valley Assessment Checklist (Lesson 4 Activity Master) to record students' performance.

Valley Assessment Checklist (Lesson 4 Activity Master)

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